Soils of the Codroy Area, Newfoundland

Report No. 2 | Newfoundland Soil Survey | 1978

Agriculture Canada

Research Branch | Direction de la recherche

86-03802/

NOTE:

A computer derived map of Soil Capability for Agriculture is obtainable on request from the Land Resource Research Institute, Agriculture Canada, through the Newfoundland Soil Survey, Agriculture Canada Research Station, St. Johns West.

Soils of the Codroy Area
Newfoundland

E. F. Woodrow, A. Schori[1] and G. M. Greenlee[2]

Atlantic Provinces Soils Institute
Land Resource Research Institute
Canada Department of Agriculture

1979

[1]Presently with Techman Ltd., Calgary, Alberta

[2]c/o Alberta Research Council, Edmonton, Alberta

ERRATUM Page numbers in the Contents are as follows:

CONTENTS

		PAGE
Acknowledgements		iv
Introduction and Survey Procedure		v
CHAPTER 1	GENERAL DESCRIPTION OF THE AREA	1
	Topography and Drainage	1
	Climate	1
	Vegetation	1
	Settlement and Land Use	7
	Main Soil Characteristics	8
CHAPTER II	DESCRIPTIONS OF THE SOILS	9
	Anguille Map Unit	9
	Beach Point Map Unit	10
	Brooms Map Unit	12
	Cape Anguille Map Unit	13
	Chignic Map Unit	15
	Codroy Map Unit	16
	Doucets Map Unit	18
	Doyles Map Unit	19
	Friars Map Unit	21
	Friars Cove Map Unit	22
	Great Codroy Map Unit	23
	Grebs Pond Map Unit	25
	Grebs Head Map Unit	27
	Little River Map Unit	28
	Millville Map Unit	30
	O'Regans Map Unit	31
	Overfalls Map Unit	33
	Ryans Brook Map Unit	34
	Searston Bay Map Unit	36
	Snakes Bight Map Unit	38
	South Branch Map Unit	39
	St. Andrew's Map Unit	41
	Tompkins Map Unit	43
	Organic Soils Map Units	44
REFERENCES		45
APPENDIX - Soil Analytical Data		47

Acknowledgements

The Soil Survey of the Codroy Mapsheet was started initially as a joint project of Agriculture Canada and ARDA. Mr. G. Greenlee did some survey work in the valley part of the mapsheet, while A. Schori expanded it to include the surrounding mountains.

Mr. H. W. R. Chancey and staff of the Canada Department of Agriculture Research Station, St. John's West, provided facilities and guidance during the project. Mr. P. K. Heringa provided guidance and valuable criticism and advised on many aspects of the work. Mr. J. L. Nowland, Mr. M. D. Sudom and Dr. G. J. Beke provided guidance in soil correlation, editing and other aspects of the work. Mr. W. Watt, Mrs. P. Greenlee, Mr. D. Butler, Mr. Z. Kamaruzaman and Mr. B. Goodyear assisted with the fieldwork.

The maps were prepared by the Cartography Section of the Land Resource Research Institute, Central Experimental Farm, Ottawa.

Introduction and Survey Procedure

The Reconnaissance Soil Survey of the Codroy Area was initiated in the summer of 1969 by G. Greenlee. He covered, mainly, the western part of the Codroy Valley. In 1970-72, A. Schori extended the survey to include the surrounding mountains of Long Range and Anguille. After 1972, work was suspended until the summer of 1977, when surveying of the whole area was completed.

The surveyed area is located in southwestern Newfoundland at 47°45' - 48°00' Latitude, 59°00' - 59°30' Longitude, and comprises approximately 103,962 hectares (256,891 acres). It includes some soils which undisputably have the best potential for agriculture in Newfoundland.

It is hoped that this report will provide helpful information for farmers, agricultural engineers, land use planners, foresters, highway engineers, and the public in general.

Field data were collected during the summers of 1969-72 and 1977. Available roads, trails and waterways were used for access where possible. Inaccessible areas were visited either on foot or by helicopter.

Each observation site was located on aerial photographs (scale 1:15,840). The frequency of the sites depended upon the soil potential for agriculture. Observations in mountainous areas were at one to two mile intervals, while inspections in the valley were conducted less than a quarter mile apart.

From the many observations, a representative of each soil unit was identified for sampling. Soil samples were collected for laboratory analysis, which provided necessary data for the proper characterization and classification of the soils.

Following the field season, the data was interpreted and the soil boundaries were marked on aerial photographs (1:15,840 scale). By using a Map-O-Graph, these lines were reproduced onto 1:50,000 red line base maps.

CHAPTER I GENERAL DESCRIPTION OF THE AREA

Topography and Drainage

The Codroy mapsheet (11-0/14) includes the Codroy Valley which is bounded on the southeast by the Long Range Mountains and on the northwest by the Anguille Mountains. The valley occupies less than a quarter of the total mapsheet area.

The Codroy Valley is a deep, roughly triangular basin with abrupt valley walls. The valley is a gently rolling lowland underlain by soft Carboniferous shales and sandstones, whose beds strike parallel and lengthwise with the valley. Local variations in lithology have produced corresponding variations in relief. The underlying bedrock topography has been somewhat modified by glacial till and outwash deposits which cover the whole lowland area to a variable depth.

The valley is drained by the Grand Codroy and Little Codroy Rivers, both of which enter the Gulf of St. Lawrence by broad estuaries, partially blocked by sand spits.

Elevations in the valley range from 15 to 130 meters (50 to 425 feet), while in the neighboring mountains of Anguille and Long Range elevations reach 457 - 610 meters (1,500 and 2,000 feet), respectively.

Climate

The sea is the dominating local influence on the climate; the cold offshore Labrador current having a considerable cooling influence in the summer. The mean annual temperature at St. Andrews is 5°C (41°F). The lowest mean winter temperature is -6°C (22°F) in February, and the highest mean summer temperature is 15°C (59°F) in August. The average annual precipitation is 112 cm. (44 in.), which includes a snowfall of 269 cm. (106 in.). The potential evapotranspiration is 19.5 inches.

The average frost free period is 117 days at St. Andrews. Prevailing winds in the May to October period are southerly, and in the November to April period westerly. There is relatively little fog in this area.

Vegetation on the Lowland and Escarpment Slopes

The area is well wooded except for cleared agricultural land, organic and poorly drained soils, and mountain tops.

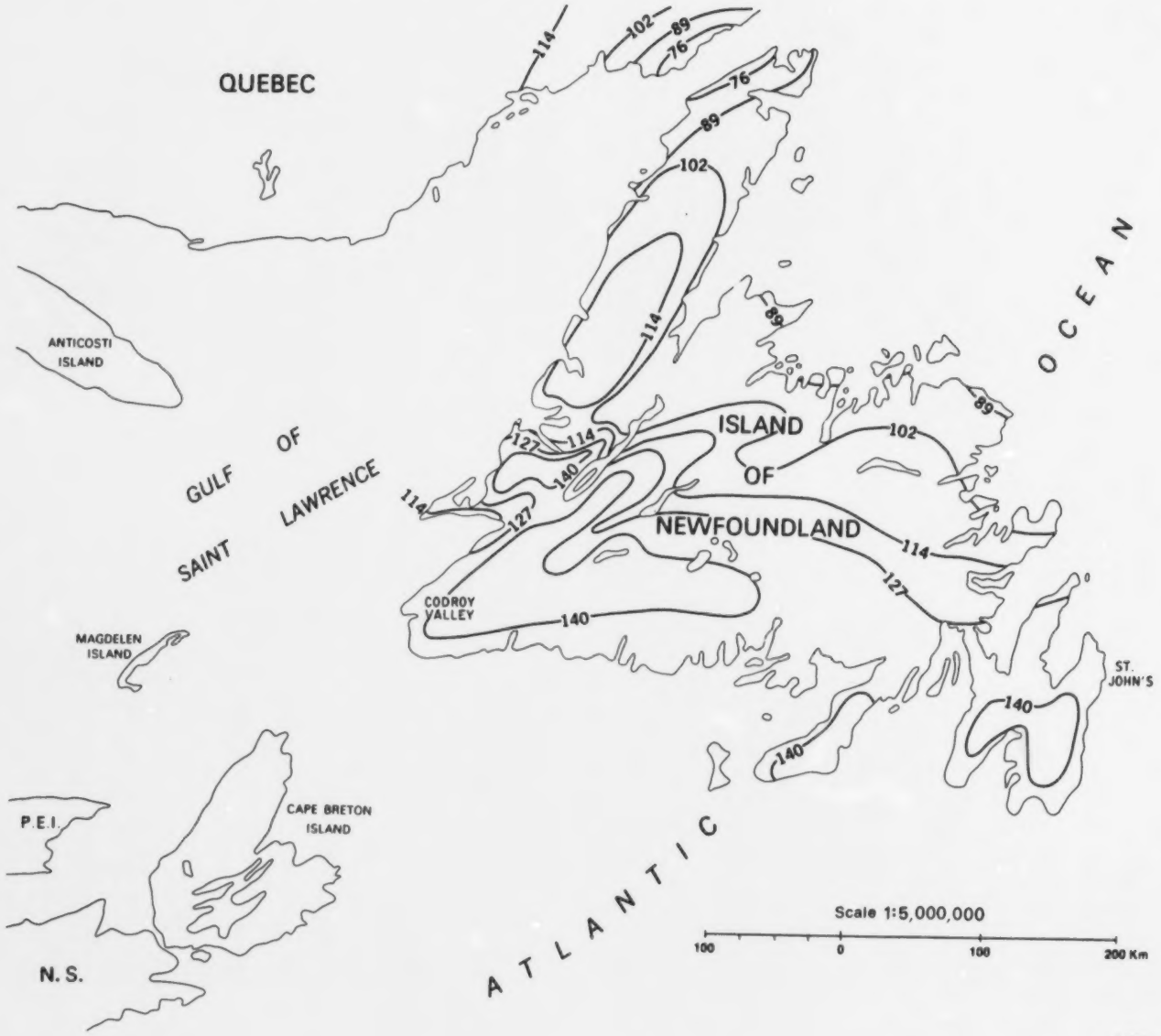
Balsam fir (Abies balsamea) is the most popular merchantable tree species found in this area. It occupies virtually all productive forest soils. Balsam fir stands here achieve greater heights than they do in other parts of the island. Black spruce (Picea mariana) is the second most popular commercial tree species found here. It tolerates dry, nutrient-poor and wet forest soils. After a fire, it usually occupies a balsam fir site.

Figure 1. Proper drainage, fertilization and seeding of some organic soils can produce excellent forage.

Figure 2. Low-lying Codroy Valley with the Anguille Mountains in the background.

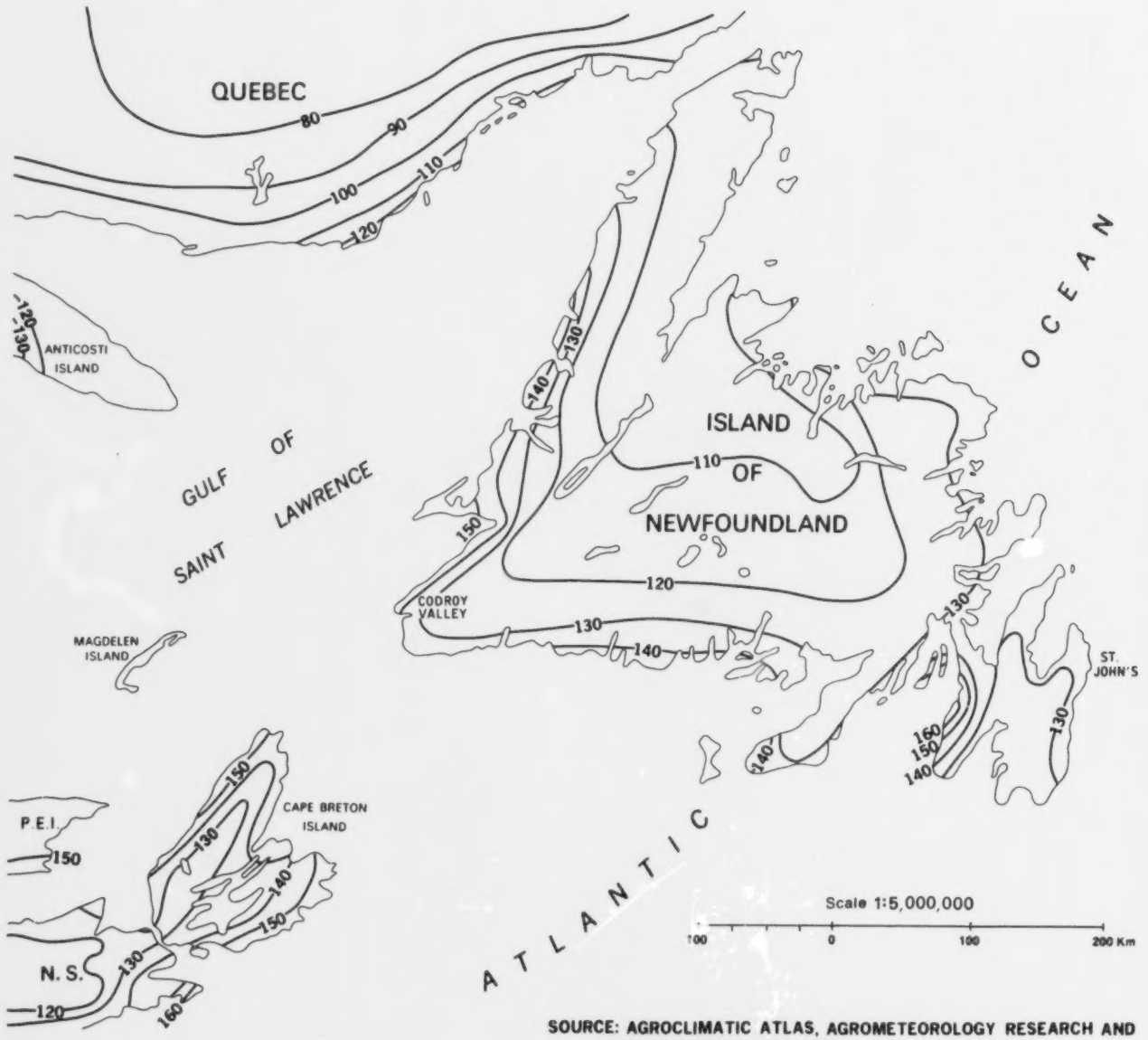
Figure 3. One of the many cirques of the Long Range Mountains. Winds funnel through these cirques to the valley below and on occasions have enough force to remove trains from their track.

MEAN ANNUAL PRECIPITATION (cm)



AVERAGE FREEZE - FREE PERIOD, (BASE 0°C)

BASED ON 1931-1960 DATA

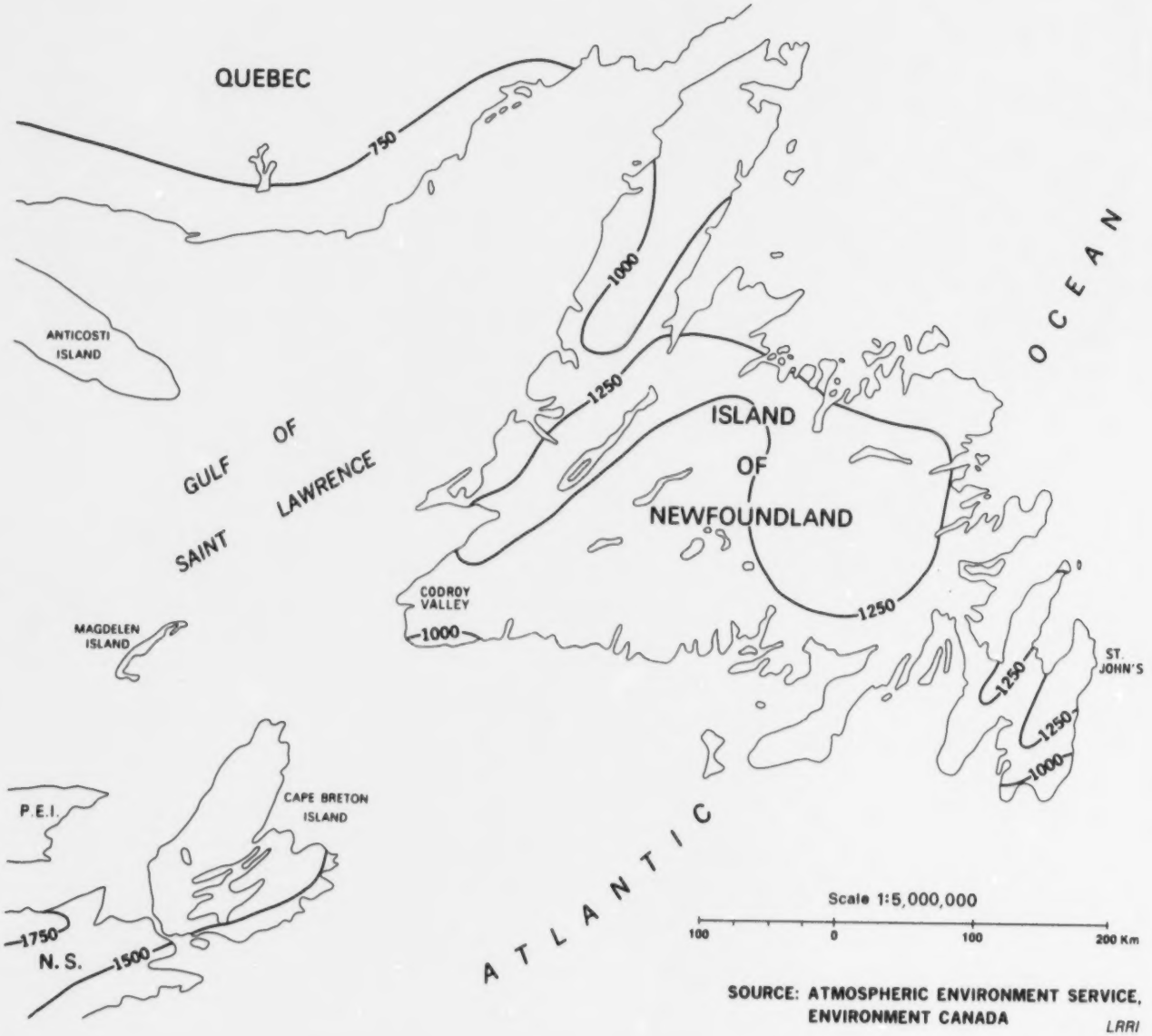


SOURCE: AGROCLIMATIC ATLAS, AGROMETEOROLOGY RESEARCH AND SERVICE, AGRICULTURE CANADA 1977 (PREPARED BY W.K. SLY)

LRRI

GROWING DEGREE DAYS ABOVE 5°C

BASED ON 1941-1970 DATA



SOURCE: ATMOSPHERIC ENVIRONMENT SERVICE, ENVIRONMENT CANADA

LRRI

The nutrient-rich balsam fir forest sites support a mixture of white spruce (Picea glauca), yellow birch (Betula lutea) and white birch (Betula papyrifera). Larch (Larix laricina) is a minor component of the forest of this area and occurs frequently on wet as well as dry soils. Balsam poplar (Populus balsamifera) is fairly uncommon but was found scattered along flood banks of the Grand Codroy River.

Trembling aspen (Populus tremuloides) does not occur in pure stands as in central Newfoundland, but is found scattered throughout the area. Mountain maple (Acer spicatum Lam.) and speckled alder (Alnus rugosa) occur on the nutrient-rich soils of the area which are very moist to extremely wet.

Vegetation on Uplands and Mountains

The forest in these areas consists mainly of wind pruned, scrubby black spruce, balsam fir and larch. Sedges, ericaceous shrubs and peat deposits are common. Rock outcrops occur quite frequently.

Settlement and Land Use

The first white settlers in the area were French-speaking Acadians. Before 1900, fishing and combined farming and fishing were the main occupations. Most of the agricultural development has been in the 20th century.

Industries today include agriculture, fishing and service industries. A large proportion of the working population is employed outside the area. Many tourists are attracted to the area for sport fishing and moose hunting as well as by its scenic qualities.

The paved Trans Canada Highway and the railway connecting St. John's and Port aux Basques run through the Codroy Valley. A good network of secondary roads connects the various communities to the highway.

Most of the productive land is in hay and pasture and there is some dairying and poultry farming. Potatoes, cabbages and turnips are grown and small areas are in oats.

Main Soil Characteristics[1]

The mineral soils have developed mainly in moderately fine to moderately coarse textured glacial till. Some have developed in moderately coarse textured glaciofluvial materials, and a small percentage in recent alluvium. In poorly drained depressions, organic soils are commonly found.

In both till and outwash deposits, soils developed on well or excessively drained sites are mainly Humo-Ferric Podzols. Under forest litter they have a distinct light gray Ae horizon over a strong brown to yellowish red B horizon. Where drainage is imperfect, the B and the lower part of the A horizon are mottled and Gleyed Ferro-Humic Podzols, Gleyed Humo-Ferric Podzols, Placic Humo-Ferric Podzols, Orthic Regosols and Gleyed Eutric and Dystric Brunisols have developed. A small proportion of the Podzolic soils is characterized by a high content of organic matter and by a dark upper B horizon as well as prominent mottling.

The well drained soils developed in recent alluvium show no profile development and are classified as Orthic Regosols.

The poorly drained soils are mainly Gleysols, excepting the Friars and Friars Cove soils, which are Gleyed Eluviated Dystric Brunisols and Gleyed Humo-Ferric Podzols, respectively. The Gleysolic soils have a high base saturation in the C horizons.

In the descriptions of the soils that follow, the names of the map units are those of the dominant soil series which is usually represented on 75% or more of the area. The detailed profile description and the analytical data given in the Appendix in each case refer to the typifying soil series in the map unit. Since the soils were analyzed, classification criteria have been revised; hence classification of the soils relied on best estimates from the data available.

Noting the accompanying remarks on soil problems as they affect agriculture, it should be borne in mind that all the soils have in common two limitations, namely, infertility and a rather adverse climate for most crops. These are also important for forest productivity. Heavy applications of fertilizer, and usually lime, are essential to achieve good crop yields. The fertility and climatic limitations will be taken as read in noting further problems.

---

[1] For definitions of technical terms, consult the Glossary of Terms in Soil Science, publication 1459, Agriculture Canada, 1976.

CHAPTER II DESCRIPTIONS OF THE SOILS

Anguille Map Unit

The Anguille soils consist mainly of imperfectly drained Gleyed Humo-Ferric Podzols. The parent material consists of medium to moderately fine textured till, usually with some fine to medium textured colluvial material at the surface; it overlies sandstones, siltstones, shales, conglomerates and limestone of the Anguille geological formation.

The main limitations for agricultural and other uses are stoniness and shallowness to the bedrock, which is also exposed at the surface in places. The best of these soils are capable of producing native or tame species of perennial forage plants. Land clearing, cultivation and seeding are feasible practices to improve production of forage crops.

Typifying Pedon: Anguille stony silt loam

Horizon	Depth (cm)	Description
L-F	8-0	Black (10YR 2/1 m), dark reddish brown (5YR 3/3 d), semi-decomposed organic matter; abundant, fine, medium and coarse, horizontal roots; many fine pores; numerous stones; 8-15 cm thick; extremely acid (pH 4.3); abrupt, smooth boundary.
Aegj	0-8	Gray (10YR 5.5/1.5 m), light gray (10YR 7/2 d) silt loam; few, fine, faint, brown (10YR 4/3 m) mottles; moderate, coarse, subangular blocky; friable; abundant very fine, fine, and medium, oblique roots; common, very fine, vesicular pores; extremely acid (pH 4.5); clear, smooth, boundary.
Bfgj	8-25	Dark brown (7.5YR 4/4 m), yellowish brown (10YR 5/4 d) silty clay loam; moderate, medium, subangular blocky; friable; few, fine oblique roots; common, very fine, and fine vesicular pores; very strongly acid (pH 4.9); gradual, smooth boundary.

Horizon	Depth (cm)	Description
IIBfg	25-40	Dark yellowish brown (10YR 4.5/5 m), light yellowish brown (2.5Y 6/4 d) gravelly loam; common, mdeium, distinct, yellowish brown (10YR 5/6 m) and prominent dark grayish brown (10YR 4/2 m) mottles; moderate, medium, platy breaking to weak, fine subangular blocky; friable; very few, fine, oblique roots; common, very fine, interstitial, pores; numerous stones; strongly acid (pH 5.2); gradual, smooth boundary.
IICgj	40-125	Very dark grayish brown (10YR 3/1.5 m), grayish brown (2.5Y 5/2 d) gravelly clay loam; few, medium, distinct, yellowish brown (10YR 5/4 m) mottles; single-grain; firm; very few, very fine, oblique roots; common, very fine, vesicular pores; numerous stones; strongly acid (pH 5.5).
R	125+	Sandstone and siltstone.

Location: Approximately 4.0 km northeast of the Cape Anguille lighthouse (225105).

Position: Slope: 25% Aspect: W Elevation: 94 m

Related soils on similar parent material are the imperfectly drained Cape Anguille, Snakes Bight and Brooms soils, and the moderately well drained Great Codroy soil.

Beach Point Map Unit

The Beach Point soils consist mainly of imperfectly drained Gleyed Eluviated Dystric Brunisols. The parent material consists of moderately fine to medium textured till; it overlies sandstones, siltstones, shales, conglomerates and limestones of the Anguille and Codroy geological formations.

The chief problems in using these soils are their stoniness and wetness. The best of them are capable of producing native or tame species of perennial forage plants. Clearing of bush, cultivation, seeding and water control could improve production of forage plants.

Typifying Pedon: Beach Point loam

Horizon	Depth (cm)	Description
L-F	5-0	Black (10YR 2/1 m, 10YR 2/1 d) semi-decomposed organic matter; abundant very fine to coarse horizontal roots; many fine pores; extremely acid (pH 4.2); 2 to 15 cm thick; abrupt, wavy boundary.
Aeg	0-10	Gray (10YR 5/1.5 m), light gray (10YR 6.5/2 d) loam; many, coarse, prominent yellowish brown (10YR 5/5 m) mottles; moderate, fine, platy; friable; plentiful very fine to medium roots; many very fine and fine vesicular pores; numerous angular stones; very strongly acid (pH 4.7); abrupt, wavy boundary.
Bmgj1	10-25	Strong brown (7.5YR 5/6 m), light olive brown (2.5Y 5.5/3 d) gravelly clay loam; common, medium, distinct, yellowish brown (10YR 5/8 m) mottles; weak, fine, subangular blocky; friable; clay skins; few, very fine oblique roots; common very fine and fine vesicular pores; numerous angular stones; very strongly acid (pH 5.0); clear, wavy boundary.
Bmgj2	25-42	Brown (10YR 4.5/4 m), light yellowish brown (2.5Y 5.5/4 d) gravelly clay loam; few, fine, distinct yellowish brown (10YR 4/6 m) mottles; weak, fine, subangular blocky; firm; few clay skins; very few, fine, oblique roots; common, very fine and fine vesicular pores; numerous angular stones; strongly acid (pH 5.3); gradual, wavy boundary.
BCgj	42-75	Dark brown (10YR 3.5/2.5 m), light yellowish brown (2.5Y 5.5/3 d) gravelly clay loam; few, fine, distinct yellowish brown (10YR 4.5/4 m) mottles; moderate, fine, subangular blocky; firm; few clay skins; common, very fine and fine vesicular pores; many, angular stones; strongly acid (pH 5.1); diffuse, wavy boundary.

Horizon	Depth (cm)	Description
IICgj	75+	Dark grayish brown (10YR 4.5/3 m), light yellowish brown (2.5Y 5.5/4 d) gravelly loam; few, fine, faint, dark yellowish brown (10YR 4/4 m) mottles; single-grain; very firm; common, very fine, vesicular pores; many angular stones; strongly acid (pH 5.2).

Location: Approximately 0.5 km south of the Cape Anguille lighthouse (198075).

Position: Slope: 2% Aspect: W Elevation: 15 m

Related soils on similar parent material are the imperfectly drained Grebs Pond soil and the well drained Grebs Head soil.

Brooms Map Unit

The Brooms soils consist mainly of imperfectly drained Gleyed Ferro-Humic Podzols. The parent material consists of medium to moderately coarse textured till and colluvial materials; it is derived from the underlying sandstones, siltstones, shales, conglomerates, and limestones of the Anguille geologic formation.

Abundance of stones, steep slopes and exposures of bedrock limit the usefulness of Brooms soils. They have no capability for arable culture or permanent pasture.

Typifying Pedon: Brooms stony loam

Horizon	Depth (cm)	Description
L-H	15-0	Black (10YR 2/1 m) semi-decomposed organic matter; fibrous at surface; greasy near mineral contact; abundant fine, medium and coarse horizontal roots; many medium pores; many stones and boulders; extremely acid; 5 to 15 cm thick; abrupt smooth boundary.
Aegj	0-2	Brown (10YR 4.5/3 m), light gray (10YR 7/2 d) loam; few, fine, faint yellowish brown (10YR 5/4 m) mottles; weak, fine subangular blocky; slightly sticky; few, micro, very fine and fine oblique roots;

Horizon	Depth (cm)	Description
		few very fine and fine vesicular pores; many stones; extremely acid (pH 3.5); clear, wavy boundary.
Bhfgj	2-15	Dark reddish brown (5YR 3/4 m), reddish brown (5YR 5/4 d) gravelly clay loam; weak, medium granular; very friable; few micro, very fine and fine oblique roots; common very fine and fine interstitial pores; many stones; extremely acid (pH 4.0); clear wavy boundary.
BC	15-35	Dark yellowish brown (10YR 4/4 m), yellowish brown (10YR 5/4 d) gravelly loam; weak, medium granular; very friable; few very fine and fine oblique roots; common micro and very fine interstitial pores; many stones; gradual, wavy boundary.
IIC	35+	Brown (10YR 4.5/3 m), pale brown (10YR 5.5/3 d) gravelly sandy loam; single-grain; very friable; very few very fine oblique roots; common micro and very fine interstitial pores; numerous stones; very strongly acid (pH 4.9).

Location: Approximately 4.0 km north of O'Regans (345067)

Position: Slope: 35% Aspect: SSW Elevation: 229 m

Related soils on similar parent material are the imperfectly drained Anguille, Cape Anguille and Snakes Bight soils and the moderately well drained Great Codroy soil.

Cape Anguille Map Unit

The Cape Anguille soils consist mainly of imperfectly drained Gleyed Humo-Ferric Podzols (lithic phase). The parent material consists of medium to moderately fine textured till and colluvial material; it overlies sandstones, siltstones, shales, conglomerates and limestones of the Anguille geologic formation.

These soils have no capability for farming because of their shallowness to and exposures of bedrock, surface stoniness and steep slopes.

Typifying Pedon: Cape Anguille stony silt loam

Horizon	Depth (cm)	Description
L-H	2-0	Black (10YR 2/1 m), dark reddish brown (5YR 3/2 d) semi-decomposed organic matter; fibric at surface, greasy at mineral contact; abundant, fine, medium and coarse horizontal roots; many very fine and fine pores; numerous stones; 2 to 15 cm thick; abrupt, wavy boundary.
Ae	0-8	Gray (10YR 5.5/1.5 m), light gray (10YR 7/1.5 d) silt loam; weak, fine to medium, platy; very friable, abundant, very fine, fine and medium roots; common, very fine, vesicular pores; numerous stones; clear wavy boundary.
Bfgj	8-18	Dark brown (10YR 4/3 m), brown (10YR 5/3 d) loam; common, coarse, faint, dark yellowish brown (10YR 4/4 m) mottles; weak, very fine, granular, very friable; abundant, very fine and fine oblique roots; common, very fine and fine vesicular pores; clear, irregular boundary.
Cgj	18-45	Very dark grayish brown (10YR 3.5/2 m), grayish brown (10YR 5/2 d) loam; few, fine, faint, dark brown (10YR 3/3 m) mottles; single-grain; friable; few, fine, oblique roots; common, very fine, vesicular pores; abrupt, irregular boundary.
R	45+	Siltstone.

Location: Approximately 2.7 km north-northeast of the Cape Anguille lighthouse (213098).

Position: Slope: 30% Aspect: NW Elevation: 156 m

Related soils on similar parent material are the imperfectly drained Anguille, Snakes Bight and Brooms soils and the moderately well drained Great Codroy soil.

Chignic Map Unit

The Chignic soils consist mainly of imperfectly drained Gleyed Eluviated Dystric Brunisols. The parent material consists of a thin veneer of medium textured ablation till over medium to fine textured basal till derived from red and grayish-brown sandstone, siltstone, mudstone, gypsum and minor conglomerates of the Searston, Barachois and Codroy geological formations.

Wetness and stoniness are the chief problems on these soils. The limitations are so severe on the best of these soils that they are only capable of producing native or tame species of perennial forage plants. Necessary improvement practices include land clearing, fertilization and liming, and water control.

Typifying Pedon: Chignic sandy loam

Horizon	Depth (cm)	Description
F-H	8-0	Black (10YR 2/1 m), very dark brown (10YR 2/2 d) semi-decomposed and decomposed organic matter; fibric at surface, greasy at mineral contact; abundant, very fine to medium oblique roots; many fine pores; extremely acid (pH 4.0); 5-15 cm thick; abrupt, smooth boundary.
Aeg	0-4	Gray (5Y 5/1 m), grayish brown (10YR 5/2 d) loam; few fine, prominent, brown (10YR 4/3 m) mottles; single-grain; friable; abundant, very fine to medium oblique roots; many very fine, interstitial pores; extremely acid (pH 4.4); clear, wavy boundary.
Bg1	4-10	Black (5YR 2/1 m), dark brown (10YR 3.5/3 d) sandy loam; weak, fine, granular; very friable; plentiful very fine to medium oblique roots; many very fine and fine interstitial pores; extremely acid (pH 4.5); clear, wavy boundary.
Bg2	10-30	Dark reddish brown (5YR 3/3.5 m), brown (10YR 5/3 d) sandy loam; few, fine, prominent, yellowish red (5YR 4/6 m) mottles; weak, fine, subangular blocky; very friable; plentiful very fine to medium oblique roots; many very fine and fine interstitial and vesicular pores; very strongly acid (pH 4.7); gradual, wavy boundary.

Horizon	Depth (cm)	Description
BCcjgj	30-45	Brown (7.5YR 5/3 m), pale brown (10YR 6/3 d) loam; common, medium, distinct, brown (10YR 4/3 m) mottles; weak, fine, subangular blocky; firm; weakly cemented; few very fine oblique roots; common very fine and fine vesicular pores; strongly acid (pH 5.3); clear, wavy boundary.
BCgj	45-75	Dark brown (7.5YR 4/2 m), light brown (7.5YR 6/3 d) loam; single-grain; very firm; common, very fine, vesicular pores; numerous stones; strongly acid (pH 5.3); diffuse, wavy boundary.
Cgj	75+	Reddish gray (5YR 4.2/2 m), light brown (7.5YR 5.5/3 d) loam; few, fine, prominent yellowish red (5YR 4/6 m) mottles; single-grain; very firm; common, very fine and fine vesicular pores; numerous stones; very strongly acid (pH 5.0).

Location: Approximately 2.1 km northeast of Doyles, along the Trans Canada Highway (375006).

Position: Slope: 5% Aspect: NW Elevation: 46 m

Related soils on similar parent material are the well to moderately well drained Codroy soil, the imperfectly drained Doyles and Searston Bay soils, the poorly drained Millville soil and the very poorly drained O'Regans soil.

Codroy Map Unit

The Codroy soils consist mainly of well drained Orthic Humo-Ferric Podzols. The parent material consists of medium to moderately fine textured glacial till derived predominantly from sandstone, siltstone, mudstone, gypsum and minor conglomerates of the Searston, Barachois and Codroy geological formations.

This map unit includes some of the best soils in the area, which are fair to moderately high in productivity for a moderate range of crops. Production could be improved under good management, by proper timing of planting and harvesting, heavy application of fertilizers and lime, more diversification of crops and attention to possible erosion problems.

Typifying Pedon: Codroy silt loam

Horizon	Depth (cm)	Description
L-H	5-0	Black (10YR 2/1 m), very dark brown (10YR 2/2 d) semi-decomposed organic matter; fibric at surface, greasy at mineral contact; abundant, very fine to coarse horizontal roots; many fine to medium pores; extremely acid (pH 3.7); 2 to 15 cm thick; abrupt, smooth boundary.
Ae	0-8	Reddish brown (5YR 5/3 m), light reddish brown (5YR 6/3 d) silt loam; moderate, coarse, platy; friable; abundant, very fine to medium oblique roots; common very fine and fine vesicular pores; extremely acid (pH 4.2); abrupt, wavy boundary.
Bf	8-22	Reddish brown (5YR 4/4 m), brown (7.5YR 4/4 d) loam; moderate, medium granular; very friable; plentiful, very fine and fine oblique roots; common fine interstitial pores; very strongly acid (pH 4.7); clear, wavy boundary.
Bm	22-38	Dark brown (7.5YR 4/4 m), brown (7.5YR 4.5/4 d) loam; moderate fine and medium granular; very friable; few very fine and fine oblique roots; common fine interstitial pores; very strongly acid (pH 4.7); clear, wavy boundary.
BC	38-80	Dark reddish brown (5YR 3/3 m), brown (7.5YR 5/4 d) silt loam; moderate, medium subangular blocky; very firm; very few, very fine, oblique roots; common fine interstitial and vesicular pores; cutans; numerous stones; very strongly acid (pH 4.8); diffuse, wavy boundary.
C	80+	Dusky red (2.5YR 3/2 m), reddish brown (5YR 5/3 d) loam; single-grain; firm; common, fine, vesicular pores; numerous stones; strongly acid (pH 5.1).

Location: Approximately 5.6 km east of Searston (307999)

Position: Slope: 5% Aspect: E Elevation: 53 m

Related soils on similar parent material are the imperfectly drained Searston Bay, Doyles and Chignic soils, the poorly drained Millville soil and the very poorly drained O'Regans soil.

Doucets Map Unit

The Doucets soils consist mainly of well to imperfectly drained Orthic Regosols (lithic phase). The parent material consists of a thin layer of medium to moderately coarse textured glacial drift of local origin. The underlying igneous and metamorphic rocks consist primarily of granites, monzonites, granodiorites (and related silicic rocks) and syenites, diorites, and gabbros (and related mafic rocks) of Silurian and earlier age.

This map unit has no agricultural capability and very little for forestry on account of its severe climate and exposure, shallowness and exposures of bedrock and stoniness of the soil.

Typifying Pedon: Doucets gravelly sandy loam

Horizon	Depth (cm)	Description
L-F	28-15	Black (10YR 2/1 m) slightly decomposed organic matter; fibric; living mosses at surface; abundant very fine and fine oblique roots; many fine and medium pores; numerous angular stones; extremely acid; gradual, wavy boundary.
H	15-0	Black (10YR 2/1 m), very dark brown (10YR 2/1.5 d) decomposed organic matter; greasy; abundant micro, very fine and fine oblique roots; common micro and very fine pores; numerous angular stones; extremely acid (pH 3.9); gradual, wavy boundary.

Horizon	Depth (cm)	Description
C	0-45	Dark reddish brown (5YR 3/2.5 m), yellowish brown (10YR 5/3.5 d) gravelly sandy loam; single-grain; non-sticky; few micro, very fine and fine oblique roots; common fine and very fine interstitial pores; many angular stones; strongly acid (pH 5.4); abrupt, irregular boundary.
R	45+	Granite, diorite and associated rocks.

Location: Approximately 4.8 km SE of Tompkins (363926)

Position: Slope: 4% Aspect: NW Elevation: 587 m

No related soils on this parent material were observed.

Doyles Map Unit

The Doyles soils consist mainly of imperfectly drained Gleyed Eluviated Eutric Brunisols. The parent material is medium to moderately fine textured till derived from red and grayish-brown sandstone, siltstone, mudstone, gypsum and minor conglomerates of the Searston, Barachois and Codroy geological formations. It is weakly calcareous and usually has a thin layer of ablation till at the surface.

They have limitations of excessive seasonal wetness and surface stones, giving low to fair productivity for a fair range of crops. They may have high productivity, in the better situations, for a specially adapted crop.

Drainage and consequent better timing of planting and harvesting, and introduction of other crops can probably improve production on these soils.

Typifying Pedon: Doyles clay loam

Horizon	Depth (cm)	Description
H	15-0	Black (10YR 2/1 m, 5YR 2/1 d) decomposed organic matter; humic; abundant very fine to medium oblique roots; strongly acid (pH 5.4); 8 to 15 cm thick; abrupt, smooth boundary.

Horizon	Depth (cm)	Description
Aeg	0-12	Dark gray (5Y 4/1 m), grayish brown (2.5Y 5/2 d) clay loam; common, medium, prominent, yellowish red (5YR 4/6 m) mottles; single-grain; friable; abundant very fine to medium oblique roots; common very fine and fine vesicular pores; thin, intermittent sand lenses; slightly acid (pH 6.2); clear, wavy boundary.
IIBmgj1	12-30	Dark reddish brown (5YR 3/3.5 m), brown (10YR 4.5/3 d) loam; common, coarse, faint, reddish brown (5YR 3.5/4 m) mottles; weak, coarse, angular blocky; firm; few, very fine and fine oblique roots; common very fine vesicular pores; thin, intermittent sand lenses; neutral (pH 6.6); clear, wavy boundary.
IIBmgj2	30-62	Dark reddish gray (5YR 4/2.5 m), brown (10YR 4.5/3.5 d) loam; common, medium, faint, reddish brown (5YR 4/3.5 m) mottles; moderate, coarse, angular blocky; very firm; few very thin and thin cutans in pores and root channels; very few, fine oblique roots; few, fine vesicular pores; neutral (pH 6.6); diffuse, wavy boundary.
IIBCg	62+	Dark brown (7.5YR 4/2.5 m), brown (7.5YR 4.5/3 d) loam; many, medium, prominent, gray (5Y 5/1 m) and few, fine, distinct, brown (10YR 4/3 m) mottles; single-grain; firm; few, very thin and thin cutans in pores and root channels; very few, fine oblique roots; common, fine, vesicular pores; numerous stones; neutral (pH 7.1).

Location: Approximately 0.6 km north of St. Andrews, beside road (296943)

Position: Slope: 4% Aspect: S Elevation: 38 m

Related soils on similar parent material are the well to moderately well drained Codroy soil, the imperfectly drained Searston Bay and Chignic soils, the poorly drained Millville soil, and the very poorly drained O'Regans soil.

Friars Map Unit

The Friars soils consist mainly of poorly drained Gleyed Eluviated Dystric Brunisols. The parent material consists of a relatively thin veneer of water-modified medium to moderately coarse textured till derived from the underlying sandstones, siltstone, shale, conglomerate, and limestone of the Anguille geological formation.

The chief limitations are the climatic exposure, large amounts of surface stones and rocks and wetness. The better Friars soils could provide some sustained grazing for farm animals, but the terrain is generally unsuitable for the use of farm machinery, making improvements virtually impossible.

Typifying Pedon: Friars gravelly sandy loam

Horizon	Depth (cm)	Description
L-F	15-0	Black (10YR 2/1 m) slightly decomposed organic matter and living mosses; fibric; plentiful fine, medium and coarse horizontal roots; many medium pores; many stones; 2 to 15 cm thick; extremely acid; abrupt, smooth boundary.
Ae	0-8	Gray (10YR 5/1.5 m), light gray (10YR 6/1.5 d) gravelly sandy loam; single-grain; very friable; few micro, very fine, fine and medium oblique roots; common micro, very fine and fine interstitial pores; numerous stones; extremely acid (pH 3.9); gradual, wavy boundary.
Bmgj	8-18	Very dark grayish brown (10YR 2.5/1.5 m), grayish brown (10YR 4.5/1.5 d) gravelly sandy loam; few, medium, prominent, dark gray (5Y 4/1 m) mottles; single-grain; slightly sticky; few micro, fine, and very fine oblique roots; common micro, fine and very fine interstitial pores; numerous stones; extremely acid (pH 4.1); gradual, wavy boundary.

Horizon	Depth (cm)	Description
BC	18-25	Dark grayish brown (10YR 4/2.5 m), brown (10YR 5/3 d) gravelly loam; weak, fine subangular blocky; slightly sticky; very few fine oblique roots; common micro, very fine, and fine vesicular pores; numerous stones; extremely acid (pH 4.4); gradual, wavy boundary.
Cgj	25+	Grayish brown (2.5Y 5/2 m), light gray (10YR 7/1.5 d) gravelly loam; single-grain; slightly sticky; very few, fine, oblique roots; few, micro, very fine, vesicular pores; many stones; very strongly acid (pH 4.9).

Location: Approximately 6.9 km northeast of O'Regans (394083)

Position: Slope: 4% Aspect: SW Elevation: 351 m

The only other related soil on similar parent material is the poorly drained Friars Cove soil.

Friars Cove Map Unit

The Friars Cove soils consist mainly of poorly drained Gleyed Humo-Ferric Podzols (lithic phase). The parent material consists of a very thin veneer of water-modified medium to moderately coarse textured till derived from the underlying sandstones, siltstones, shales, conglomerates, and limestones of the Anguille geological formation.

Shallowness, bedrock exposures, surface stoniness and climatic exposure are the chief problems on Friars Cove soils; they are also excessively wet. The better areas can be used for pasture, but improvements using farm machinery would not be feasible.

Typifying Pedon: Friars Cove loamy fine sand

Horizon	Depth (cm)	Description
L-F	5-0	Black (10YR 2/1 m) slightly decomposed organic matter and living mosses; fibric; plentiful fine and medium horizontal roots; many medium pores; numerous stones; extremely acid; 2 to 15 cm thick; abrupt, smooth boundary.

Horizon	Depth (cm)	Description
Ae	0-10	Light gray (5YR 6/1 m) loamy fine sand; single-grain; very friable; plentiful micro, very fine, and fine oblique roots; common very fine and fine interstitial pores; numerous stones; extremely acid; gradual, wavy boundary.
Bf1	10-20	Dark reddish brown (5YR 2/1.5 m) gravelly silt loam; single-grain; slightly sticky; few micro, very fine, and fine oblique roots; common micro, very fine and fine interstitial pores; numerous stones; extremely acid; clear, wavy boundary.
Bf2	20-28	Dark brown (7.5YR 4/4 m) gravelly silt loam; single-grain; slightly sticky; few very fine oblique roots; common micro, very fine, and fine interstitial pores; numerous stones; extremely acid; gradual, wavy boundary.
Cgj	28-38	Brown (10YR 5/3.5 m) gravelly fine sandy loam; few, medium, faint, yellowish brown (10YR 5/4 m) mottles; single-grain; non-sticky; very few fine oblique roots; common micro, very fine, and fine vesicular pores; numerous stones; very strongly acid; diffuse, wavy boundary.
R	38+	Siltstone and sandstone.

Location: Approximately 7.1 km northeast of O'Regans (399084)

Position: Slope: 8% Aspect: SE Elevation: 381 m

The only other related soil on similar parent material is the poorly drained Friars soil.

Great Codroy Map Unit

The Great Codroy soils consist mainly of moderately well drained Orthic Ferro-Humic Podzols (lithic phase). The parent material consists of a thin layer of stony, medium to moderately coarse textured till and colluvial material.

These soils have no capability for agriculture as a result of their stoniness, rock outcrops, shallowness to bedrock, steep slopes and severe climate.

Typifying Pedon: Great Codroy stony loam

Horizon	Depth (cm)	Description
L-H	10-0	Black (10YR 2/1 m) semi-decomposed organic matter; fibric at surface, greasy at mineral contact; abundant, very fine to coarse horizontal roots; 8 to 15 cm thick; abrupt, wavy boundary.
Aeg	0-1	Dark greenish gray (5Y 4/1 m), gray (5Y 5/1 d) loam; weak, fine granular; friable; abundant very fine to coarse oblique roots; common very fine and fine interstitial pores; numerous stones; abrupt, wavy boundary.
Bhf	1-11	Black (5YR 2/1), dark reddish brown (5YR 3.5/4 d) loam; moderate fine to medium granular; very friable; plentiful very fine to coarse oblique roots; common very fine and fine interstitial pores; numerous stones; clear, wavy boundary.
Bf	11-22	Dark reddish brown (5YR 2/2 m), brown (10YR 4/3.5 d) loam; few, fine, distinct dark reddish brown (5YR 3/4 m) mottles; moderate fine to medium granular; very friable; few very fine to medium oblique roots; common very fine and fine interstitial pores; numerous stones; gradual, wavy boundary.
BC	22-35	Dark reddish gray (5YR 4/2 m), brown (10YR 4/3 d) gravelly loam; few, fine, distinct dark reddish brown (5YR 3/4 m) mottles; single-grain; friable; few, very fine and fine oblique roots; common very fine interstitial pores; numerous stones; gradual, wavy boundary.
C	35-45	Dark brown (10YR 3.5/2.5 m), brown (10YR 5/2.5 d) gravelly sandy loam; few, fine, faint, dark yellowish brown (10YR 4/4 m) mottles; single-grain; friable; very few fine roots; common very fine and fine interstitial pores; numerous stones.
R	45+	

Position: Slope: 38% Aspect: SW

Related soils on similar parent material are the imperfectly drained Anguille, Cape Anguille, Snakes Bight and Brooms soils.

Grebs Pond Map Unit

The Grebs Pond soils consist mainly of imperfectly drained Gleyed Eluviated Eutric Brunisols. The parent material consists of a relatively thin layer of stony, medium textured till and colluvial material; it overlies sandstones and limestones of the Anguille geological formation.

Stoniness of the surface and steep topography restrict use of these soils. Favourably situated, they have low to fair potential productivity for most crops, and possibly better for a specially adapted crop such as potatoes or certain other vegetables. Drainage would facilitate timely field operations, and stone-clearing may improve substantially the productive potential of Grebs Pond soils.

Typifying Pedon: Grebs Pond stony loam

Horizon	Depth (cm)	Description
Ap	0-15	Dark brown (10YR 3.5/3 m), brown (10YR 5/3 d) loam; few, fine, faint, dark yellowish brown (10YR 4/4 m) mottles; moderate, medium, granular; very friable; abundant, very fine, and fine oblique roots; many, very fine to medium interstitial pores; numerous angular stones; slightly acid (pH 6.1); clear, wavy boundary.
Bmgj	15-25	Strong brown (7.5YR 5/5 m), light yellowish brown (2.5Y 6/4 d) gravelly loam; few, fine, distinct, yellowish brown (10YR 5/6 m) mottles; weak, fine subangular blocky; very friable; plentiful, very fine and fine oblique roots; common, very fine and fine, interstitial pores; numerous angular stones; neutral (pH 6.7); clear, smooth boundary.

Horizon	Depth (cm)	Description
Btjgj	25-35	Strong brown (7.5YR 5/5 m), light yellowish brown (2.5Y 5.5/4 d) gravelly clay loam; few, fine, distinct, yellowish brown (10YR 5/6 m) mottles; weak, fine, subangular blocky; friable; few, very fine and fine oblique roots; common very fine and fine interstitial pores; numerous angular stones; slightly acid (pH 6.4); clear, smooth boundary.
IIBmgj	35-48	Yellowish brown (10YR 5/6 m), light olive brown (2.5Y 5/4 d) silt loam; few, fine, faint, yellowish brown (10YR 5.5/6 m) mottles; weak, fine subangular blocky; very friable; few very fine oblique roots; common very fine and fine interstitial pores; slightly acid (pH 6.4); clear, smooth boundary.
IIBCgj	48-58	Dark yellowish brown (10YR 5/3.5 m), light olive brown (2.5Y 5/3 d) silt loam; few, fine, distinct, yellowish brown (10YR 5/6 m) mottles; single-grain; friable; few, fine interstitial pores; numerous angular stones; neutral (pH 6.9); gradual, smooth boundary.
IICg	58+	Dark brown (10YR 4/3 m), yellowish brown (10YR 5/4 d) gravelly loam; few, fine, prominent yellowish brown (10YR 5/7 m) mottles; single-grain; firm; few, fine vesicular pores; numerous angular stones; neutral (pH 7.1).

Location: Approximately 1.6 km northeast of the Cape Anguille lighthouse (208089)

Position: Slope: 30% Aspect: W Elevation: 107 m

Related soils on similar parent material are the imperfectly drained Beach Point soil and the well drained Grebs Head soil.

Grebs Head Map Unit

The Grebs Head soils consist mainly of well drained Orthic Humo-Ferric Podzols (lithic phase). The parent materials consist of a very thin veneer of very stony medium to moderately coarse textured glacial till and colluvial material; it overlies sandstones of the Anguille geological formation.

These soils have no capability for arable culture or permanent pasture, because of stoniness and shallowness.

Typifying Pedon: Grebs Head sandy loam

Horizon	Depth (cm)	Description
Ap	0-8	Black (2.5Y 2/0 m), dark grayish brown (10YR 4/2 d) sandy loam; weak, fine, granular; very friable; plentiful micro to fine oblique roots; many, very fine and fine interstitial pores; numerous angular stones; abrupt, wavy boundary.
Ae	8-9	Light brownish gray (10YR 6/2.5 m), light gray (10YR 7/2 d) gravelly sandy loam; single-grain; loose; plentiful micro and very fine oblique roots; many, very fine and fine interstitial pores; numerous angular stones; 0 to 15 cm thick; abrupt, wavy boundary.
Bf	9-22	Dark yellowish brown (10YR 4.5/4 m), brown (10YR 4.5/4 d) gravelly sandy loam; single-grain; loose; few, very fine oblique roots; many very fine and fine interstitial pores; many angular stones; gradual, irregular boundary.
C	22-32	Dark grayish brown (10YR 4/2 m), grayish brown (10YR 5/2 d) gravelly sandy loam; single-grain; loose; very few fine oblique roots; many very fine and fine interstitial pores; many angular stones; abrupt, broken boundary.
R	32+	Buff coloured sandstone.

Location: Approximately 1.3 km northeast of the Cape Anguille lighthouse (209086)

Position: Slope: 30% Aspect: W Elevation: 137 m

Related soils on similar parent material are the imperfectly drained Grebs Pond and Beach Point soils.

Little River Map Unit

The Little River soils consist mainly of imperfectly drained Gleyed Humo-Ferric Podzols. The parent material consists of a stony moderately coarse textured glacial till with a thin layer of coarse and medium textured colluvial material at the surface. It overlies igneous and metamorphic rocks consisting primarily of granites, monzonites, granodiorites (and related silicic rocks), and syenites, diorites, and gabbros (and related mafic rocks) of Devonian and earlier age.

Excessive stoniness of the land surface, and its frequent steep slopes, restrict the usefulness of Little River soils. Those most favourably situated are capable of producing native or tame species of perennial forage plants. Clearing of bush, heavy fertilization and liming, cultivation and seeding could improve production of forage plants.

Typifying Pedon: Little River silt loam

Horizon	Depth (cm)	Description
F-H	8-0	Black (10YR 2/1 m) semi-decomposed and decomposed organic matter; greasy; abundant, very fine, fine and medium oblique roots; common, micro, very fine, and fine pores; numerous stones; extremely acid; 2 to 15 cm thick; abrupt, wavy boundary.
Aeg	0-10	Grayish brown (10YR 5/2 m), light grayish brown (10YR 6/2 d) silt loam; few, fine, distinct, dark yellowish brown (10YR 4/4 m) and common, medium and coarse, prominent, gray (5Y 5/1 m) mottles; numerous, thin, very dark brown (10YR 2/2 m) ped coatings; weak, very coarse platy breaking to weak, fine, and medium subangular blocky; friable; plentiful, micro, very fine and fine oblique roots; common, micro vesicular and few very fine and fine interstitial pores; numerous, angular stones; extremely acid (pH 4.2); clear, wavy boundary.

Horizon	Depth (cm)	Description
IIAeg	10-18	Dark greenish gray (5Y 4/1 m), grayish brown (10YR 5/2 d) sandy loam; few, fine, prominent, brown (10YR 4/3.5 m) mottles; few, thin, very dark brown (10YR 2/2 m) ped coatings; several thin sand lenses; weak, coarse, angular blocky breaking to weak, fine angular blocky; firm; few, micro, very fine and fine oblique roots; few, micro, vesicular and common, very fine interstitial pores; numerous angular stones; extremely acid (pH 4.1); abrupt, wavy boundary.
IIBfcgj	18-35	Dark reddish brown (5YR 3/4 m), brown (7.5YR 5/4 d) gravelly sandy loam; many; medium, distinct, dark reddish brown (2.5YR 2/4 m) mottles; very few, thin, dark reddish brown (5YR 2/2 m) ped coatings; weak, coarse, angular, blocky; very firm; weakly cemented; very few, micro and very fine oblique roots; common micro and very fine interstitial pores; many angular stones; very strongly acid (pH 4.9); clear, wavy boundary.
IICgj	35+	Olive (5Y 4/3 m), light brownish gray (2.5Y 6/3 d), gravelly sandy loam; few, fine, prominent, dark reddish brown (5YR 3/3 m) mottles; single-grain; extremely firm; very few micro oblique roots; common micro and very fine interstitial pores; many angular stones; strongly acid (pH 5.1).

Location: Approximately 4.0 km east of Tompkins (375964)

Position: Slope: 15% Aspect: SW Elevation: 236 m

The only other related soil on similar parent material is the moderately well drained Overfalls soil.

Millville Map Unit

The Millville soils consist mainly of poorly drained Orthic Gleysols (peaty phase). The parent material consists of moderately coarse textured glacial till.

For reasons of prolonged saturation and excessive stoniness, these soils are unsuited to any agricultural use.

Typifying Pedon: Millville sandy loam

Horizon	Depth (cm)	Description
Om	25-20	Black (10YR 2/1 m); semi-decomposed organic matter; abundant, very fine to medium, oblique roots; numerous rounded stones; medium acid (pH 5.8); clear, smooth boundary.
Oh	20-0	Black (10YR 2/1 m), well decomposed organic matter; greasy; abundant very fine to medium oblique roots; numerous rounded stones; medium acid (pH 5.6); abrupt, wavy boundary.
Aeg	0-12	Dark gray (10YR 4/1.5 m), grayish brown (10YR 5.5/2 d) sandy loam; common, medium, prominent, yellowish brown (10YR 5/6 m) mottles; weak, fine subangular blocky; friable; plentiful very fine to medium oblique roots; common very fine and fine interstitial pores; numerous rounded stones; slightly acid (pH 6.4); gradual, wavy boundary.
Bmgj	12-28	Dark brown (7.5YR 4/2 m), brown (7.5YR 5/3 d) sandy loam; common, medium, distinct, dark yellowish brown (10YR 4/4 m) mottles; weak, fine, subangular blocky; friable; few, very fine and fine oblique roots; common very fine and fine interstitial pores; numerous rounded stones; neutral (pH 6.6); diffuse, wavy boundary.

Horizon	Depth (cm)	Description
Bg	28-58	Dark reddish gray (5YR 5/2 m), brown (7.5YR 5/3 d), sandy loam; few, fine, prominent, dark brown (10YR 4/3 m) mottles; single-grain; very friable; very few fine oblique roots; common very fine and fine interstitial pores; numerous rounded stones; slightly acid (pH 6.2); diffuse, wavy boundary.
Cg	58+	Dark gray (5YR 4/1 m), brown (7.5YR 5/2 d) sandy loam; few, fine, prominent, dark brown (10YR 3/3 m) mottles; single-grain; loose; common very fine to medium interstitial pores; numerous rounded stones; slightly acid (pH 6.4).

Location: Approximately 0.3 km southwest of Tompkins, along the Trans Canada Highway (332964)

Position: Slope: 14% Aspect: SE Elevation: 14 m

Related soils on similar parent material are the well to moderately well drained Codroy soil, the imperfectly drained Searston Bay, Doyles and Chignic soils, and the very poorly drained O'Regans soil.

O'Regans Map Unit

The O'Regans soils are very poorly drained Orthic Gleysols. The parent material consists of moderately fine to medium textured glacial till derived mainly from sandstone, siltstone, limestone, gypsum and conglomerate of the Searston, Barachois and Codroy geological formations.

Prolonged saturation and surface stoniness limit the agricultural use of these soils to pasturing in a few more favourable locations. They do not warrant improvement measures.

Typifying Pedon: O'Regans silt loam

Horizon	Depth (cm)	Description
Of	20-8	Undecomposed organic matter; fibric, living mosses; plentiful, very fine to medium, oblique roots; extremely acid (pH 4.3); gradual, wavy boundary.
Oh	8-0	Black (10YR 2/1 m), decomposed organic matter; greasy; plentiful, very fine to medium, oblique roots; abrupt, wavy boundary.

Horizon	Depth (cm)	Description
Aeg	0-15	Gray (5Y 5/1 m), light gray (10YR 7/1.5 d) silt loam; few, fine, prominent, dark yellowish brown (10YR 4/3 m) mottles; weak, coarse, angular blocky; firm; abundant, very fine to medium oblique roots; many, very fine and fine vesicular pores; medium acid (pH 5.8); clear, irregular boundary.
Bg	15-25	Dark reddish brown (5YR 3.5/1.5 m), brown (7.5YR 4.5/2 d) loam; many, medium, prominent, yellowish red (5YR 4/8 m) mottles; moderate, medium, subangular blocky; firm; plentiful, very fine and fine oblique roots; many very fine and fine vesicular pores; slightly acid (pH 6.5); gradual, irregular boundary.
Btjg	25-50	Dark reddish gray (5YR 3.5/2 m), reddish brown (5YR 4.5/3 d) silt loam; few, fine, prominent; dark brown (10YR 3/2.5 m) mottles; moderate, medium, subangular blocky; very firm; few, very fine and fine oblique roots; many very fine vesicular pores; few, thin cutans; numerous stones; neutral (pH 6.9); diffuse, wavy boundary.
Cg	50+	Dark reddish gray (5YR 4/2 m), brown (7.5YR 4.5/3 d) gravelly loam; few, fine, prominent, dark brown (10YR 3/2.5 m) mottles; single-grain; slightly plastic; many very fine interstitial pores; numerous stones; neutral (pH 7.2).

Location: Approximately 2.4 km east-southeast of O'Regans (352018)

Position: Slope: 9% Aspect: N Elevation: 17 m

Related soils on similar parent material are the well to moderately well drained Codroy soil, the imperfectly drained Searston Bay, Doyles and Chignic soils and the poorly drained Millville soil.

Overfalls Map Unit

The Overfalls soils are mainly moderately well drained Orthic Ferro-Humic Podzols (lithic phase). The parent material consists of a relatively thin layer of stony, moderately coarse to medium textured till and colluvial materials. It overlies igneous and metamorphic rocks consisting primarily of granites, monzonites, granodiorites (and related silicic rocks), and syenites, diorites and gabbros (and related mafic rocks) of Devonian and earlier age.

Excessive amounts of surface stone, steep topography and shallowness to bedrock, which frequently protrudes at the surface, restrict the usefulness of these soils for agriculture. The better situated soils are capable of producing native and tame forage species, and there is some potential for improvement by clearing bush and seeding and fertilization.

Typifying Pedon: Overfalls sandy loam

Horizon	Depth (cm)	Description
F-H	15-0	Black (10YR 2/1 m), very dark brown (10YR 2/2 d) semi-decomposed and decomposed organic matter; fibrous at surface; the rest is greasy; plentiful very fine, fine and coarse oblique roots; common micro, very fine, and fine pores; numerous angular stones; extremely acid (pH 3.5); 5 to 15 cm thick; abrupt, smooth boundary.
Ae	0-5	Dark grayish brown (10YR 4/2.5 m), light brownish gray (10YR 6/2 d) sandy loam; weak, fine, subangular blocky; very friable; few micro, very fine and fine oblique roots; common micro vesicular and fine and very fine interstitial pores; numerous angular stones; extremely acid (pH 4.0); abrupt, wavy boundary.
Bhf	5-25	Black (10YR 2/1 m), dark brown (10YR 3/2.5 d) gravelly loam; weak, very fine subangular blocky; very friable; few micro, very fine and fine oblique roots; common micro and very fine interstitial pores; numerous angular stones; extremely acid (pH 4.5); gradual, wavy boundary.

Horizon	Depth (cm)	Description
Bf	25-40	Dark brown (10YR 2.5/2.5 m), brown (7.5YR 4.5/4 d) gravelly sandy loam; single-grain; very friable; few micro and very fine oblique roots; common micro and very fine interstitial pores; many angular stones; very strongly acid (pH 4.9); clear, wavy boundary.
BC	40-48	Dark brown (7.5YR 3/2 m), yellowish brown (10YR 5/3.5 d) gravelly sandy loam; single-grain; very friable; few micro and very fine oblique roots; common micro vesicular and few very fine interstitial pores; many angular stones; very strongly acid (pH 4.7); abrupt, irregular boundary.
R	48+	Granite, diorite and associated rocks.

Location: Approximately 4.0 km SE of Doyles (384964)

Position: Slope: 18% Aspect: W Elevation: 473 m

The only other related soil on similar parent material is the imperfectly drained Little River soil.

Ryan's Brook Map Unit

The Ryan's Brook soils consist mainly of poorly drained Orthic Gleysols. The parent material consists of lacustrine materials over outwash and ablation till; it occurs over sandstones, siltstones, shales, conglomerates, and limestones of the Anguille and Codroy geological formations.

Prolonged saturation and excessive stoniness make these soils unsuitable for any agricultural use.

Typifying Pedon: Ryan's Brook clay loam

Horizon	Depth (cm)	Description
Oh	8-0	Black (10YR 2/1 m), well decomposed organic matter; greasy; living mosses at surface; abundant fine, medium, and coarse horizontal roots; common, very fine, and fine pores; numerous stones; extremely acid; 8 to 15 cm thick; abrupt, smooth boundary.

Horizon	Depth (cm)	Description
Aeg	0-10	Gray (5Y 5.5/1 m), light gray (5Y 7/1 d) clay loam; many, thin, dark gray ped coatings; few, fine, prominent, dark reddish brown (5YR 3/4 m) mottles; primary weak, coarse, angular blocky; secondary weak, fine, platy; sticky; plentiful, micro, very fine, fine and medium oblique roots; few micro, vesicular and common very fine interstitial pores; numerous stones; extremely acid (pH 4.1); gradual, wavy boundary.
IIABg	10-20	Dark gray (5Y 4/1 m), grayish brown (10YR 4.5/2 d) gravelly sandy loam; discontinuous sand lenses; many, thin dark gray ped coatings; few, fine and medium prominent dark yellowish brown (10YR 4/4 m) mottles; weak, fine subangular blocky; slightly sticky; few, micro, very fine, and fine oblique roots; few, micro, and very fine interstitial pores; extremely acid (pH 4.5); gradual, wavy boundary.
IIBg	20-40	Very dark grayish brown (10YR 3/2 m), dark brown (10YR 3.5/3 d) gravelly sandy loam; thin sand lenses; common, thin very dark brown (10YR 2/2 m) ped coatings; few, fine, prominent dark gray (5Y 4/1 m) mottles; primary weak, coarse, subangular blocky; secondary weak, fine subangular blocky; non-sticky; few, micro, very fine and fine oblique roots; few, micro and very fine interstitial pores; numerous, subangular cobbles and stones; very strongly acid (pH 4.9); diffuse, wavy boundary.
IIBC	40+	Very dark grayish brown (10YR 3/2.5 m), yellowish brown (10YR 5/3.5 d) gravelly sandy loam; few, thin very dark brown (10YR 2/2 m) ped coatings; single-grain; non-sticky; very few very fine roots; few, micro and very fine interstitial pores; many angular cobbles and stones; very strongly acid (pH 4.9).

Location: Approximately 1.0 km NNW of Chignic Lodge (431070)

Position: Slope: 6% Aspect: SE Elevation: 61 m

No related soils on this parent material were observed.

Searston Bay Map Unit

The Searston Bay soils consist mainly of imperfectly drained Gleyed Eluviated Dystric Brunisols. The parent material consists of a moderately coarse to medium textured till; it overlies sandstone, siltstone, limestone, gypsum and conglomerate of the Searston, Barachois and Codroy geological formations.

These soils are wet for long periods and very stony. Some areas are capable of producing native or tame species for forage, and would be improved by the clearing of bush, drainage, fertilization, liming and seeding.

Typifying Pedon: Searston Bay silt loam

Horizon	Depth (cm)	Description
F	10-5	Undecomposed organic matter; fibric; abundant, very fine to coarse, horizontal roots; clear, smooth boundary.
H	5-0	Black (10YR 2/1 m), well decomposed organic matter; greasy; abundant very fine to coarse horizontal roots; abrupt, wavy boundary.
Aeg	0-8	Gray (5Y 5/1 m), light gray (10YR 6.5/1.5 d) silt loam; weak, coarse, platy; friable; plentiful very fine to medium oblique roots; many, very fine and fine vesicular pores; extremely acid (pH 4.0); abrupt, wavy boundary.
AB	8-10	Very dark grayish brown (10YR 3.5/2 m) sandy loam; weak, coarse, platy; friable; plentiful very fine and fine oblique roots; many very fine and fine vesicular and interstitial pores; abrupt, wavy boundary.

Horizon	Depth (cm)	Description
Btj	10-15	Black (10YR 2/1 m), dark grayish brown (10YR 4/2 d) loam; weak, very fine granular; friable; few, very fine and fine oblique roots; many very fine and fine vesicular and interstitial pores; extremely acid (pH 4.3); gradual, irregular boundary.
Bmgj1	15-25	Dark brown (7.5YR 4/3 m), brown (7.5YR 4.5/4 d) loam; common, medium, prominent, dark gray mottles; weak, medium, granular; firm; few, very fine and fine interstitial pores; very strongly acid (pH 4.9); clear, wavy boundary.
Bmgj2	25-42	Dark reddish brown (5YR 3.5/2.5 m), brown (7.5YR 5/4 d) loam; weak, medium, subangular blocky; firm; very few fine oblique roots; common very fine and fine vesicular and interstitial pores; few thin cutans in root channels and on ped faces; numerous stones; very strongly acid (pH 4.9); gradual, wavy boundary.
BC	42-65	Dark reddish brown (2.5YR 3.5/3 m), reddish brown (5YR 4.5/3 d) sandy loam; weak, medium, subangular blocky; firm; common very fine vesicular pores; numerous stones; strongly acid (pH 5.2); diffuse, wavy boundary.
C	65+	Dark reddish gray (5YR 3.5/2.5 m), reddish brown (5YR 4.5/4 d) sandy loam; single-grain; firm; common very fine vesicular pores; numerous stones; very strongly acid (pH 5.0).

Location: Approximately 1.8 km southwest of South Branch (465075)

Position: Slope: 15% Aspect: SW Elevation: 40 m

Related soils on similar parent material are the well to moderately well drained Codroy soil, the imperfectly drained Doyles and Chignic soils, the poorly drained Millville soil and the very poorly drained O'Regans soil.

Snakes Bight Map Unit

The Snakes Bight soils consist mainly of imperfectly drained Placic Humo-Ferric Podzols. The parent material consists of stony, medium-textured glacial till derived from the underlying sandstones, siltstones, shales, conglomerates and limestones of the Anguille geological formation. A thin layer of fine textured material occurs at the surface.

These soils have no potential for agriculture due to excessive stoniness, steep topography and shallowness to bedrock.

Typifying Pedon: Snakes Bight clay loam

Horizon	Depth (cm)	Description
L-H	5-0	Black (10YR 2/1 m) semi-decomposed organic matter; fibric at surface; greasy near mineral contact; abundant, fine, medium, and coarse horizontal roots; many medium pores; extremely acid; 2 to 15 cm thick; abrupt, smooth boundary.
Aegl	0-10	Gray (5Y 5.5/1 m), light gray (10YR 7.5/1 d) clay; numerous, thin and very dark brown (10YR 2/2 m) coatings on ped surfaces and root channels; few, fine and medium prominent dark yellowish brown (10YR 4/4 m) mottles; weak, coarse platy; friable; plentiful, micro and very fine roots; common micro vesicular and few very fine and fine interstitial pores; extremely acid (pH 4.0); gradual, wavy boundary.
Aeg2	10-22	Gray (5Y 6/1 m), light gray (10YR 7/1.5 d) gravelly loam, few thin sand lenses, few, thin very dark brown (10YR 2/2 m) organic coatings on ped surfaces and root channels; common, fine and medium prominent yellowish brown (10YR 4.5/4 m) mottles; weak, coarse, angular blocky; friable; few micro and very fine oblique roots; few micro vesicular and very few micro interstitial pores; extremely acid (pH 4.2); abrupt, irregular boundary.
Bfc	22-23	Dark reddish brown (2.5YR 3/4 m), dark red (2.5YR 3/5 d) placic horizon; strongly cemented; thin iron pans, approximately 1 cm thick; usually two or more pans occur; very strongly acid (pH 4.7); 1 to 2 cm thick; abrupt, irregular boundary.

Horizon	Depth (cm)	Description
Bfgj	23-45	Dark brown (10YR 3/2.5 m), brown (10YR 5/3 d) gravelly loam; few, fine distinct yellowish brown (10YR 4.5/5 m) and few, fine, prominent light gray (5Y 6.5/1 m) mottles; single-grain; firm; very few micro roots; few, micro vesicular and common very fine interstitial pores; many angular stones and cobbles; strongly acid (pH 4.9); abrupt, irregular boundary.
R	70+	Sandstone.

Location: Approximately 9.2 km east-northeast of the lighthouse at Cape Anguille (282105).

Position: Slope: 7% Aspect: NW Elevation: 320 m

Related soils on similar parent material are the imperfectly drained Anguille, Cape Anguille and Brooms soils and the moderately well drained Great Codroy soil.

South Branch Map Unit

The South Branch soils consist mainly of well drained Orthic Humo-Ferric Podzols. The parent material consists of gravelly, very coarse and moderately coarse textured outwash materials; the surface is commonly medium textured.

This map unit includes some of the better soils in the Codroy Valley, which can be moderately productive for a fair range of crops. Significant aspects of their management are timely seeding, diversification into crops other than grass, intensive liming and fertilization and, locally, some clearing of surface stones and attention to the dangers of soil erosion. Problems of stoniness, poor water-holding capacity and steep slopes restrict the capability of many areas.

Typifying Pedon: South Branch sandy loam

Horizon	Depth (cm)	Description
L-F	8-0	Black (10YR 2/1 m), semi-decomposed organic matter; fibric; abundant, fine to coarse horizontal roots; numerous stones; extremely acid (pH 3.8); 2 to 15 cm thick; abrupt, wavy boundary.

Horizon	Depth (cm)	Description
Ae	0-10	Gray (10YR 5/1 m), light gray (10YR 6.5/1 d) sandy loam; weak, fine platy; soft; abundant, very fine to coarse oblique roots; common very fine and fine vesicular and interstitial pores; numerous rounded cobbles and stones; extremely acid (pH 4.0); abrupt, wavy boundary.
Bf1	10-25	Dusky red (2.5YR 3/2 m), dark yellowish brown (10YR 4.5/4 d) sandy loam; weak, medium granular; soft; plentiful very fine to medium oblique roots; common very fine and fine interstitial pores; numerous rounded stones and cobbles; very strongly acid (pH 5.0); clear, wavy boundary.
Bf2	25-45	Dark brown (7.5YR 4/4 m), yellowish brown (10YR 5/4 d) gravelly sandy loam; weak, fine granular; very friable; plentiful very fine and fine oblique roots; common very fine to medium interstitial pores; numerous rounded cobbles and stones; strongly acid (pH 5.5); gradual, wavy boundary.
BC	45-65	Dark reddish brown (5YR 3/2.5 m), brown (10YR 5/3 d) gravelly sandy loam; single-grain; friable; few, fine oblique roots; common very fine and fine interstitial pores; numerous rounded stones and cobbles; medium acid (pH 5.7); diffuse, wavy boundary.
C	65+	Very dark grayish brown (10YR 3.5/2.5 m), brown (10YR 4.5/3.5 d) very gravelly sandy loam; single-grain; loose; common very fine and fine interstitial pores; strongly acid (pH 5.5).

Location: Approximately 1.4 km east-southeast of Tompkins (349962)

Position: Slope: 25% Aspect: NW Elevation: 30 m

The only other related soil on similar parent material is the imperfectly drained St. Andrews soil.

St. Andrews Map Unit

The St. Andrews soils consist mainly of imperfectly drained Gleyed Ferro-Humic Podzols. The parent material consists of gravelly, very coarse textured and moderately coarse textured outwash materials; the surface is usually medium textured.

Soil problems include excessive seasonal wetness and surface stoniness. The better areas are capable of producing fair yields of native or tame forage plants but not grains. Needed improvement practices include clearing of bush, seeding and liming and fertilization. Drainage is also required and would probably be highly effective.

Typifying Pedon: St. Andrews silt loam

Horizon	Depth (cm)	Description
L-F	25-8	Black (10YR 2/1 m, d) undecomposed and semi-decomposed organic matter; fibric; abundant very fine to coarse horizontal roots; extremely acid (pH 3.7); clear, wavy boundary.
H	8-0	Black (2.5Y 2/0 m, d) decomposed organic matter; greasy; abundant very fine to coarse horizontal roots; abrupt, wavy boundary.
Ahegj	0-2	Very dark grayish brown (10YR 3/2 m, d) silt loam; single-grain; very friable; abundant very fine to coarse horizontal roots; many very fine vesicular and interstitial pores; numerous rounded cobbles and stones; abrupt, broken boundary.
Aegj	2-8	Gray (2.5Y 5/1 m), light brownish gray (10YR 6/2 d) silt loam; few, fine, distinct, brown (10YR 4/3 m) mottles; weak, fine, subangular blocky; friable; abundant very fine to coarse oblique roots; many very fine vesicular and interstitial pores; numerous rounded cobbles and stones; extremely acid (pH 4.0); abrupt, wavy boundary.

Horizon	Depth (cm)	Description
AB	8-10	Dark brown (10YR 4/2.5 m), dark grayish brown (10YR 4/2 d) silt loam; single-grain; friable; abundant very fine to coarse oblique roots; many very fine and fine vesicular and interstitial pores; numerous rounded cobbles and stones; abrupt, broken boundary.
Bhfgj	10-20	Dark reddish brown (5YR 2.5/1.5 m), dark brown (10YR 3/3 d) silt loam; weak, medium, granular; firm; slightly cemented; plentiful, very fine and fine oblique roots; common, very fine and fine interstitial pores; numerous rounded cobbles and stones; extremely acid (pH 4.1); clear, wavy boundary.
Bfcjgj	20-28	Dark reddish brown (5YR 3/4 m), light olive brown (2.5Y 5/4 d) sandy loam; common, fine distinct, dark reddish brown (2.5YR 3/4 m) mottles; weak, fine, granular; firm; weakly cemented; few, very fine and fine oblique roots; common, very fine and fine vesicular and interstitial pores; numerous rounded cobbles and stones; very strongly acid (pH 5.0); clear, wavy boundary.
Bfcj	28-45	Dark brown (10YR 4/3 m), olive brown (2.5Y 4.5/4 d) gravelly sandy loam; single-grain; very firm; weakly cemented; common very fine to medium interstitial pores; many rounded cobbles and stones; strongly acid (pH 5.1); diffuse, wavy boundary.
IIC	45+	Dark grayish brown (10YR 4/2 m), light yellowish brown (2.5Y 6/3.5 d) very gravelly sand; single-grain; loose; common very fine to medium interstitial pores; numerous rounded cobbles and stones; strongly acid (pH 5.4).

Location: Approximately 1.1 km east of Chignic Lodge (gravel pit) (446061)

Position: Slope: 6% Aspect: N Elevation: 46 m

The only other related soil on similar parent material is the well drained South Branch soil.

Tompkins Map Unit

The Tompkins soils consist mainly of well drained Orthic Regosols. The parent material consists of medium and moderately coarse textured alluvial materials over gravelly, very coarse textured outwash materials.

These soils are of considerable value to agriculture and are moderately productive for a fair range of crops. Chief limitations are lack of fertility, a tendency to droughtiness and flooding of streams along which they are situated. Good management involves fertilization and liming, timely seeding, timely cutting of hay and possible diversification into crops other than hay.

Typifying Pedon: Tompkins silt loam

Horizon	Depth (cm)	Description
Ap	0-18	Dark brown (7.5YR 3/2 m), brown (7.5YR 5/4 d) silt loam; weak, medium granular; very friable; abundant very fine and fine vertical and oblique roots; common, very fine and fine interstitial pores; strongly acid (pH 5.2); clear, smooth boundary.
AC	18-42	Reddish brown (5YR 4/3 m, d) silt loam; weak, medium and coarse prismatic; very friable; plentiful, very fine and fine vertical roots; common very fine interstitial and fine tubular pores; very strongly acid (pH 4.8); gradual, smooth boundary.
C1	42-68	Reddish brown (5YR 4/3 m), brown (7.5YR 5/4 d) silt loam; single-grain; very friable; very few, very fine, vesicular and interstitial pores; very strongly acid (pH 5.0); clear, smooth boundary.
C2	68+	Dark brown (7.5YR 4/2 m), brown (7.5YR 5/4 d) silt loam; single-grain; very friable; common very fine and fine vesicular and interstitial pores; strongly acid (pH 5.1).

Location: Approximately 5.6 km northeast of Doyles, along the Grand Codroy River, opposite Riverview Hill (397032).

Position: Slope: 1% Aspect: N Elevation: 8 m

No related soils on similar parent material were observed.

Organic Soils Map Units

The organic soils were not classified in soil series, but the named map units were groupings of dominant soil subgroups. They occur in both the Bay St. George and the South Mountain Climatic Zones.

The Bay St. George Pedoclimatic Zone

The soils in the Upper Ferry map unit are classified as Typic Mesisols (Ty.M.). They occur on relatively flat bogs consisting mainly of sphagnum mosses at an intermediate stage of decomposition.

The soils in the Woody Cape map unit are classified as Humic Mesisols (Hu.M.). They occur on horizontal fens consisting mainly of sedges at an intermediate stage of decomposition.

The soils in the Riverview map unit are classified as Typic Humisols (Ty.H.). They are also on horizontal fens but consist mainly of well decomposed sedges.

The soils in the Molychignic map unit are classified as Terric Humisols (T.H.). They are on horizontal fens consisting mainly of well decomposed sedges over bluish gray sand.

The soils in the Block Pond map unit are classified as Mesic Fibrisols (Me.F.). They are on flat bogs consisting of undecomposed fibric material, commonly derived largely from sphagnum mosses.

The South Mountain Pedoclimatic Zone

The soils of the Hynes Pond map unit are classified as Typic Mesisols (Ty.M.). They are on horizontal fens consisting mainly of sedges at an intermediate stage of decomposition.

The soils of the North Bow map unit are classified as Typic Mesisols (Ty.M.). They are on shallow sloping fens consisting mainly of sedges at an intermediate stage of decomposition.

REFERENCES

Canada Land Inventory, Rept. No. 2, 1965. Soil capability classification for agriculture. Canada Dept. Forestry, Ottawa, Ontario. 16 p.

Canada Soil Survey Committee 1978. The Canadian System of Soil Classification. Publ. 1646. Research Branch, Canada Department of Agriculture. 164 p.

Delaney, B. B. 1974. Land Capability Classification for Forestry in Newfoundland. Department of Forestry and Agriculture, Newfoundland.

Gutsell, B. V. 1949. An introduction to the geography of Newfoundland. Canada Dept. Mines & Resources, Ottawa, Ontario. 85 p.

Hare, F. K. 1952. The climate of the island of Newfoundland: a geographical analysis. Canada Dept. Mines & Tech. Surveys. Geograph. Bull. No. 2, 36-88.

Nowland, J. L. and MacDougall, J. I. 1973. Soils of Cumberland County, Nova Scotia. Report No. 17, Nova Scotia Soil Survey, Canada Department of Agriculture and Nova Scotia Department of Agriculture and Marketing.

Rogers, J. D. 1888-1920. An historical geography of the British Colonies. Vol. V - Part IV Newfoundland. Oxford, The Clarendon Press.

The Canadian Soil Information System, Manual for Describing Soils in the Field. 1975. Working Group on Soil Survey Data, Soil Research Institute, Canada Department of Agriculture, Ottawa.

Utting, J. 1966. Geology of the Codroy Valley, Southwestern Newfoundland, including results of a preliminary palynological investigation. Unpub. M.Sc. Thesis, Mem. Univ., Newfoundland. 89 p.

Wang, Dr. C. and Rees, H. W. 1977. General Soil Information and Single Parameter Interpretation Maps of The Rogersville Area of New Brunswick. Agriculture Canada, Atlantic Soil Survey Unit.

Wells, R. E. and Heringa, P. K. 1972. Soil Survey of the Gander-Gambo Area, Newfoundland. Rept. No. 1, Newfoundland Soil Survey, Canada Department of Agriculture and ARDA. 52 p.

Wolfe, P. E. 1944. Report on Reconnaissance Soil Survey in Newfoundland, No. XI - Codroy Valley, West Coast, Newfoundland, Dept. Nat. Res., Agric. Div. 5 p.

Wylie, N. V. K. 1949. Newfoundland - An historical sketch. Canadian Geograph. J. Vol. 38 No. 4, 148-173.

APPENDIX

Soil Analytical Data

Note: Changes in soil classification criteria after these analytical data were obtained necessitated changes in classification of some soils described in the text based on estimated properties.

Soil Series	Horizon	pH H_2O	pH $CaCl_2$	% Hygroscopic Moisture	% Ignition Loss	% Sand	% Silt	% Clay
Anguille	L-F	4.3	3.3					
	Aegj	4.5	3.5	1.1	4.6	27	53	20
	Bfgj	4.9	4.3	3.1	8.0	19	44	37
	IIBfg	5.2	4.4	1.7	4.1	38	44	18
	IICgj	5.5	4.4	1.1	2.0	33	37	30
Beach Point	L-F	4.2	3.4					
	Aeg	4.7	3.8	0	4.6	42	32	26
	Bmgj1	5.0	4.4	1.4	4.9	37	31	32
	Bmgj2	5.3	4.2	1.7	4.1	41	31	28
	BCgj	5.1	4.2	1.1	4.3	27	41	32
	IICgj	5.2	4.2	1.7	3.5	48	30	22
Brooms	L-H							
	Aegj	3.5	3.0	.3	4.6	35	47	18
	Bhfgj	4.0	3.6	2.0	12.5	29	43	28
	BC	4.5	4.1	.9	5.2	39	44	17
	IIC	4.9	4.3	.6	2.3	62	27	11
Chignic	F-H	4.0	3.2					
	Aeg	4.4	3.7	1.4	6.0	49	43	8
	Bg1	4.5	4.0	2.6	8.5	57	29	14
	Bg2	4.7	4.1	1.7	5.2	59	30	11
	BCcjgj	5.3	4.1	.6	1.4	51	35	14
	BCgj	5.3	4.5	.6	1.4	52	28	20
	Cg	5.9	5.4	.9	1.1	45	33	22
Codroy	L-H	3.7	3.2					
	Ae	4.2	3.6	2.0	1.1	23	59	18
	Bf	4.7	4.0	2.6	3.8	38	41	21
	Bm	4.7	4.0	2.3	3.2	36	46	18
	BC	4.8	4.1	.9	3.1	25	51	24
	C	5.1	4.2	1.7	1.4	28	46	26
Doucets	L-F							
	H	3.9	3.3	7.1	76.6			
	C	5.4	4.5	.9	2.9	48	48	4

% Stones	% Fe Oxalate	% Fe Dithionate	% Al Oxalate	% Al Dithionate	Exchangeable Acidity	Exchangeable Bases	% Base Saturation	Spurway N ppm	Spurway P ppm	Spurway K ppm	Spurway Ca ppm
13	.28	.47	.17	.12	16.7	1.1	6.2				
17	1.32	2.50	.66	.62	21.2	3.2	13.1				
21	.96	1.65	.52	.48	11.3	1.1	8.9				
32	.32	1.35	.26	.20	9.3	4.0	3.0				
19	.56	.9	.19	.14	13.0	1.6	11.0				
33	.96	2.1	.70	.67	14.8	.8	5.1				
32	.68	1.95	.61	.52	11.5	.8	6.5				
38	.6	2.25	.44	.34	11.9	1.1	8.5				
38	.58	2.2	.42	.39	11.3	1.3	10.3				
	.2	.4	.2	.1	16.9	2.4	12.4	5	1	2.5	5
	1.9	2.5	.8	.7	33.6	2.0	5.6	7	Nil	2.5	5
	.9	.6	.6	.3	16.3	1.1	6.3	2.5	Nil	3	Nil
	.4	.4	.4	.3	14.6	.3	2.0	.5	Nil	2	Nil
8	.03	.03	.2	.18	18.3	1.1	5.7				
13	.09	.08	.8	.79	23.7	1.3	5.2				
16	.25	.32	.92	.82	15.7	1.1	6.5				
20	.24	.46	.18	.12	9.5	1.3	12.0				
15	.2	.5	.12	.08	7.4	4.8	39.3				
22	.22	.5	.11	.06	9.7	6.4	39.8				
5	.14	.43	.17	.10	15.0	1.3	8.0				
9	.96	1.2	.46	.37	14.6	1.1	7.0				
13	.58	.9	.4	.32	12.2	.5	3.9				
26	.28	.95	.30	.20	10.9	1.9	14.8				
15	.28	1.05	.25	.18	11.5	4.0	25.8				
	.3	.3	.5	.4	6.2	.5	7.5	1 .5	.5 .5	9 1	5 Nil

Soil Series	Horizon	pH H_2O	pH $CaCl_2$	% Hygroscopic Moisture	% Ignition Loss	% Sand	% Silt	% Clay
Doyles	H	5.4	5.1					
	Aeg	6.2	5.5	3.1	9.4	26	41	33
	IIBmgj1	6.6	5.8	.6	2.3	48	34	18
	IIBmgj2	6.6	5.9	1.7	2.3	37	47	16
	IIBCg	7.1	6.0	.9	2.0	34	46	20
Friars	L-F							
	Ae	3.9	3.5	0	1.1	71	24	5
	Bmgj	4.1	3.6	.6	3.2	60	26	14
	BC	4.4	4.0	.6	3.4	47	33	20
	Cgj	4.9	4.5	0	1.1	51	34	15
Grebs	Ap	6.1	4.8	1.4	8.4	33	46	21
	Bmgj	6.7	5.7	2.0	3.8	27	47	26
	Btjgj	6.4	5.6	2.3	5.0	22	46	32
	IIBmgj	6.4	5.9	1.4	5.2	32	51	17
	IIBCgj	6.9	6.0	2.0	2.0	35	54	11
	IICg	7.1	6.2	.6	3.2	35	49	16
Little River	F-H							
	Aeg	4.2	3.5	0	5.6	32	51	17
	IIAeg	4.1	3.9	.3	2.0	61	33	6
	IIBfcgj	4.9	4.3	2.0	5.8	66	30	4
	IICgj	5.1	4.6	1.4	3.2	54	44	2
Millville	Om	5.8	5.5					
	Oh	5.6	5.3					
	Aeg	6.4	5.5	1.1	1.4	71	25	4
	Bmgj	6.6	5.2	1.1	1.1	53	41	6
	Bg	6.2	5.1	.3	1.7	55	39	6
	Cg	6.4	5.2	1.1	.9	59	33	8
O'Regans	Of							
	Oh							
	Aeg	5.8	4.5	.9	2.6	31	51	18
	Bg	6.5	5.8	.3	1.7	48	42	10
	Btjg	6.9	6.2	1.1	1.7	26	52	22
	Cg	7.2	7.0	1.1	1.7	37	49	14

% Stones	% Fe Oxalate	% Fe Dithionate	% Al Oxalate	% Al Dithionate	Exchangeable Acidity	Exchangeable Bases	% Base Saturation	Spurway N ppm	Spurway P ppm	Spurway K ppm	Spurway Ca ppm
45	.76	2.9	.65	.60	6.6	16.5	71.4				
14	.24	.95	.12	.10	5.8	7.4	56.1				
22	.25	1.0	.15	.12	5.8	10.9	65.3				
27	.2	.8	.18	.09	5.6	11.7	67.6				
	.03	.02	.06	.04	6.6	.8	10.8	.5	.5	2	Nil
	.2	.2	.3	.2	13.6	1.1	7.5	.5	Nil	2.5	Nil
	.07	.1	.4	.3	13.8	.8	5.5	.5	.5	2	Nil
	.05	.1	.4	.3	7.2	.8	10.0	.5	Nil	2	Nil
28	.72	2.5	.42	.39	7.6	12.8	62.7				
29	.56	1.9	.29	.27	5.4	8.2	60.3				
22	1.04	2.8	.40	.44	5.8	11.4	66.3				
19	.88	2.6	.55	.54	4.9	7.4	60.2				
24	.56	2.0	.40	.34	6.6	5.3	44.5				
33	.54	2.5	.39	.30	7.2	5.1	41.5				
	.4	.5	.2	.2	19.6	1.9	8.8	3.5	Nil	2	Nil
	.5	.5	.2	.1	15.7	1.1	6.5	2	.5	2	Nil
	2.1	2.5	1.3	.7	17.7	.3	1.7	.5	Nil	1	Nil
	.4	.3	.8	.7	10.9	.5	4.4	.5	Nil	1	Nil
15	.28	.44	.17	.13	5.6	6.4	53.3				
17	.21	.5	.16	.10	5.6	4.5	44.6				
17	.22	.47	.17	.10	7.8	5.3	40.5				
23	.22	.47	.16	.09	4.7	6.1	56.5				
2	.024	.04	.14	.08	9.5	5.6	37.1				
13	.078	.6	.10	.06	4.5	6.1	57.5				
20	.15	1.0	.13	.05	4.7	9.3	66.4				
37	.16	.95	.13	.05	3.5	12.5	78.1				

Soil Series	Horizon	pH H_2O	pH $CaCl_2$	% Hygroscopic Moisture	% Ignition Loss	% Sand	% Silt	% Clay
Overfalls	F-H	3.5	3.0	5.6	72.7			
	Ae	4.0	3.4	.3	1.7	63	32	5
	Bhf	4.5	3.8	1.7	11.0	51	36	13
	Bf	4.9	4.4	2.0	5.8	61	35	4
	BC	4.7	4.4	.9	2.9	63	29	8
Ryans Brook	Oh							
	Aeg	4.1	3.5	.9	4.3	30	39	31
	IIABg	4.5	3.8	.6	3.4	66	26	8
	IIBg	4.9	4.1	1.1	4.9	70	23	7
	IIBC	4.9	4.2	.9	2.0	67	26	7
Searston Bay	F							
	H							
	Aeg	4.0	3.3	.9	4.9	18	62	20
	AB	4.3	3.6	.3	2.3	60	32	8
	Btj	4.9	3.9	0	2.6	51	35	14
	Bmgj1							
	Bmgj2							
	BC	5.2	4.0	.3	1.7	48	46	6
	C	5.0	4.1	0	1.1	66	26	8
Snakes Bight	L-H							
	Aeg1	4.0	3.3	2.0	7.3	6	37	57
	Aeg2	4.2	3.8	.6	3.7	29	47	24
	Bfc	4.7	4.1	3.2	8.1			
	Bfgj	4.9	4.3	.9	4.3	43	39	18
South Branch	L-F	3.8	3.0					
	Ae	4.0	3.4	.3	2.0	53	43	4
	Bf1	5.0	4.5	4.6	12.6	58	34	8
	Bf2	5.5	4.8	1.7	5.2	60	34	6
	BC	5.7	4.6	1.1	4.6	61	35	4
	C	5.5	4.4	.9	3.2	66	30	4
St. Andrews	L-F							
	H							
	Ahegj							
	Aegj	4.0	3.1	.6	10.1	30	54	16
	AB							
	Bhfgj	4.1	3.8	4.9	18.6	52	41	7
	Bfcjgj	5.0	4.3	5.1	12.0	57	38	5
	Bfcj	5.1	4.3	2.6	8.2	63	34	3
	IIC	5.4	4.8	.6	1.4	88	11	1

% Stones	% Fe Oxalate	% Fe Dithionate	% Al Oxalate	% Al Dithionate	Exchangeable Acidity	Exchangeable Bases	% Base Saturation	Spurway N ppm	Spurway P ppm	Spurway K ppm	Spurway Ca ppm
								.5	1	13	5
	.4	.1	.1	.1	19.2	1.0	5.0	.5	.5	2.5	5
	1.5	2.3	.8	.8	38.5	1.7	4.2	1	.5	1	5
	.7	.6	1.3	.9	25.1	1.1	4.2	1	.5	1.5	Nil
	.4	.3	.6	.5	16.3	.5	3.0	.5	.5	3	Nil
	.2	.2	.2	.1	16.9	1.3	7.1	.5	Nil	2	5
	.3	.3	.3	.2	11.5	1.9	14.2	.5	Nil	3	Nil
	.5	.6	.6	.5	13.8	1.6	10.4	.5	.5	2.5	Nil
	.3	.3	.4	.3	9.5	.8	7.8	.5	Nil	2	Nil
0	.01	.02	.3	.14	17.5	2.1	10.7				
6	.06	.27	.14	.16	13.0	.8	5.8				
5	.2	.85	.28	.22	13.0	Nil	Nil				
28	.15	.6	.10	.06	8.7	1.3	13.0				
4	.05	.85	.13	.08	7.2	2.9	28.7				
	.2	.3	.4	.3	35.4	1.7	4.6	.5	Nil	2	Nil
	.4	.4	.3	.2	16.1	1.3	7.5	2.5	Nil	2	Nil
	4.0	4.8	.7	.6	19.2	Nil	Nil	.5	Nil	1.5	Nil
	1.2	.5	.6	.5	12.4	.8	6.1	.5	Nil	2	Nil
6	.06	.13	.09	.05	9.1	.3	3.2				
17	2.24	2.55	2.6	2.0	20.0	.5	2.4				
49	.64	1.0	1.44	.94	11.9	.8	6.3				
54	.44	.7	1.36	.76	8.0	1.9	19.2				
53	.32	.65	1.0	.58	8.2	.3	3.5				
6	1.04	.85	.28	.18	18.3	1.3	6.6				
22	3.4	3.7	1.44	1.28	37.9	1.6	4.1				
32	1.72	1.7	4.0	3.0	21.2	1.9	8.2				
33	.88	1.0	3.12	1.48	14.2	1.1	7.2				
48	.84	.3	.92	.40	7.0	.5	6.7				

MAPS NOT

FILMED

CARTES

OMISES